

03 December 2002

03169-02 T/sh

**Liebherr-Werk Ehingen GmbH  
D-89584 Ehingen/Donau**

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**Telescopic Boom**

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**Claims**

1. Telescopic boom of a crane with a pivot section (2), telescopic sections (5, 6, 7, 8) that telescope out of the pivot section (2), and a guying (9) that has at least one guy stand (11) housed to pivot on one of the sections (2, 5, 6, 7, 8), and at least one guy cable (10) supported by the guy stand (11), as well as erection mechanisms (17) for raising the support stand (11) out of folded transportation position into raised operating position, characterized by the fact that the erection mechanism consists of a tension rod (17) that connects the guy stand (11) with an internal telescoping section (6), which can be telescoped outward opposite the section (5) on which the guy stand (11) is housed to pivot.
  
2. Telescopic boom according to the foregoing claim, in which the guy stand (11) is inclined in an operating position in such manner that the resulting force induced by the

guy cable (10) on the guy stand (11) has a lever arm with respect to the guy support (11), which induces a tractive force in the tension rod (17).

3. Telescopic boom according to one of the foregoing claims, in which the guy cable (10) runs unattached over the guy stand (11) from an attachment point to an internal telescopic section (8), preferably the collar of the innermost telescopic section (8), to an attachment point on an external telescopic section (2), preferably the lower area of the pivot section (2).

4. Telescopic boom according to one of the foregoing claims, in which the guy stand (11) is pivoted on the collar of a middle section (5), preferably on the collar of a first telescopic section (5) held directly in the pivot section (2).

5. Telescopic boom according to one of the foregoing claims, in which the tension rod (17) is pivoted on the collar of the immediately adjacent telescopic section (6), which is held directly in the telescopic section (5) on which the guy stand (11) is housed to swivel.

6. Telescopic boom according to one of the foregoing claims, in which the length of the tension rod (17) can be adjusted, preferably consisting of a telescopic pipe with several extension lengths.

7. Telescopic boom according to one of the foregoing claims, in which the guy stand (11) has two guy supports (12), each housed to pivot in such manner that in operating position they are spread apart to form a V, and each of which can be raised into its operating position by means of a tension rod (17), and in which a guy cable (10) runs over each of the guy supports (12).
8. Telescopic boom according to one of the foregoing claims, in which the length of the guy stand (11) can be changed, in particular can be telescoped.
9. Telescopic boom according to one of the foregoing claims, in which several guy stands (11) are pivoted to several sections (5, 6) that can telescope into one another.
10. Telescopic boom according to one of the foregoing claims, in which the guy cable (10) or each guy cable (10) can be drawn out and into a cable storage device (18) and by means of a hook and eye (22) can be locked in a desired cable length, in which preferably the guy cable or each guy cable (10) has at its end thickening pieces (24), particularly pressed-on cable clamps, which can engage positively with the hook and eye (22).
11. Telescopic boom according to the foregoing claim, in which there are several thickening pieces (24) positioned at intervals and the hook and eye (22) has a mobile

locking piece (23) that allows a given guy cable (10) with one or more thickening pieces (24) to run through, or which captures one of the thickening pieces (24).

12. Telescopic boom according to one of the foregoing claims, in which the hook and eye (22) can move by means of a hook and eye drive (25), in particular by means of an hydraulic cylinder (26), in the longitudinal direction of the cable, and the guy cable (10) can be placed under tension by the movement of the hook and eye (22).

13. Telescopic boom according to one of the foregoing claims, in which the hook and eye (22) and/or the cable storage device (18) are on the pivot section (2).

14. Telescopic boom according to one of the foregoing claims, in which the cable storage device (18) has at least one storage pulley (19) into which the guy cable (10) can be drawn and/or in which an auxiliary cable (20) for hauling in the guy cable is attached at the end of the guy cable (10).

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**Summary**

The within invention concerns a telescopic boom of a crane with a pivot section, telescopic sections that can telescope out of the pivot section, and a guying that has at least one guy stand housed to pivot on one of the sections, and at least one guy cable supported by the guy stand, as well as erection mechanisms for raising the support stand out of folded transportation position into raised operating position. According to the invention, the telescopic boom is characterized by the fact that the erection mechanism consists of a tension rod that connects the guy stand with an internal telescopic section that can telescope outward opposite the section on which the guy stand is housed to pivot.